(b) twenty-four (24) pages of Substitute Sequence Listing (includes SEQ ID NOs. 1-81); and

(c) three (3) sheets of corrected Formal Drawings (includes Figures 1-5 and new sequence identifiers SEQ ID NOs. 44-81 in Figures 1-3).

Remarks

Applicant respectfully submits that the Substitute Specification, Substitute Sequence Listing and corrected Formal Drawings that are filed herewith add no new matter to the present application.

Substitute Specification

The Substitute Specification differs from the Specification that was originally filed for the present application as follows (for page numbers please refer to the **marked up version** of the Substitute Specification that is also filed herewith):

page 1: The specification has been updated according to the priority changes that were made with the Substitute Declarations filed September 2, 1999.

pages 4, 5, 18, 19 and 24: The specification has been updated according to the changes that were made with the Formal Drawings filed December 10, 1999 (i.e., deletion of original Figures 4, 5A, and 5C). In addition, the sequences in Figures 1-3 have been identified by sequence identifiers (i.e., SEQ ID NOs. 44-81) in order to comply with the sequence listing requirements of 37 C.F.R. §1.821-1.825.

page 13: The terms "IL 12, IL 16, IL 18, Ifn-ξ" have been replaced with the terms "IL-12, IL-16, IL-18, IFNγ" to correct an obvious clerical error (e.g., see original claim 24 for support).

pages 19 and 22 (Tables 1 and 4): Sequence identifiers (i.e., SEQ ID NOs. 7-29) have been added to identify the sequences in Tables 1 and 4 in order to comply with the sequence listing requirements of 37 C.F.R. §1.821-1.825.

pages 20 and 23 (Tables 2 and 5): Sequence identifiers (i.e., SEQ ID NOs. 30-39) have

been added to identify the sequences in Tables 2 and 5 in order to comply with the sequence listing requirements of 37 C.F.R. §1.821-1.825.

pages 20 and 23 (Tables 3 and 6): Sequence identifiers (i.e., SEQ ID NOs. 40-43) have been added to identify the sequences in Tables 3 and 6 in order to comply with the sequence listing requirements of 37 C.F.R. §1.821-1.825.

pages 26-29: New claims 37-62 have been added. Support for these new claims can be found throughout the application as filed (e.g., see original claims 1-13 and Examples 1-5).

pages 29-34: Claims 1-36 have been deleted.

Substitute Sequence Listing:

The Substitute Sequence Listing that is filed herewith was necessary since there were certain discrepancies between the SEQ ID NOs. that were used in the Specification and Figures and the SEQ ID NOs. that were used in the previous Sequence Listing filed August 10, 2001.

Formal Drawings:

The Formal Drawings that are filed herewith are identical to the Formal Drawings that were filed December 10, 1999 except that sequence identifiers (SEQ ID NOs. 44-81) have been added to Figures 1-3.

Conclusion

Applicant respectfully requests examination of the present application as amended herein. Please charge any fees that may be associated with this matter, or credit any overpayments, to our Deposit Account No. 03-1721.

Respectfully submitted,

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Appendix A - Version with Markings to Show Changes Made

Please refer to the **marked up version** of the Substitute Specification that is filed herewith.

41

Appendix B - Claims Pending After Entrance of Present Amendment

37. A method of making a modified allergen which is less reactive with IgE comprising:

(a) identifying one or more IgE binding sites in an allergen, the one or more IgE binding sites being ones that are recognized when the allergen is contacted with serum IgE from an individual that is allergic to the allergen;

(b) modifying the allergen by mutating at least one amino acid in one or more IgE binding sites;

(c) screening for IgE binding to the modified allergen using serum IgE from an individual that is allergic to the allergen; and

(d) selecting the modified allergens which have decreased binding to IgE as compared to the unmodified allergen.

38. The method of claim 37 further comprising screening for activation of T cells that have been cultured from an individual that is allergic to the allergen and selecting the modified allergens which activate the T cells in substantially the same way as the unmodified allergen.

39. The method of claim 37 further comprising screening for binding of the modified allergen to IgG using serum IgG from an individual that is allergic to the allergen and selecting the modified allergens which bind IgG in substantially the same way as the unmodified allergen.

40. The method of claim 37 wherein the modified allergen is mutated in the center of one or more of the IgE binding sites.

41. The method of claim 37 wherein the modified allergen is mutated by substitution.

42. The method of claim 41 wherein the modified allergen is mutated by substituting a hydrophobic amino acid in the center of one or more of the IgE binding sites with a neutral or hydrophilic amino acid.

43. The method of claim 37 wherein the modified allergen is a portion of the allergen.

44. The method of claim 37 wherein the modified allergen is formulated with an adjuvant selected from the group consisting of IL-12, IL-16, IL-18, IFNγ and immune stimulatory oligodeoxynucleotide sequences containing unmethylated CpG motifs which cause brisk activation and skew the immune response to a Th1-type response.

45. The method of claim 37 wherein the modified allergen is screened for initiation of a T cell helper 1 response.

46. The method of claim 37 wherein the modified allergen is made in a recombinant host selected from the group consisting of plants, animals, bacteria, yeast, fungi, and insect cells.

47. The method of claim 37 wherein the modified allergen is made in cells using site specific mutation.

48. The method of claim 37 wherein the modified allergen is made from a peanut allergen selected from the group consisting of Ara h 1, Ara h 2, and Ara h 3.

49. The method of claim 37 wherein the modified allergen is based on a protein obtained from a source selected from the group consisting of legumes, milks, grains, eggs, fish, crustaceans, mollusks, insects, molds, dust, grasses, trees, weeds, mammals, birds, and natural latexes.

50. The method of claim 37, wherein the step of modifying includes mutating at least one amino acid in all the IgE epitopes of the allergen.

51. The method of claim 37, wherein the at least one IgE epitope is one that is recognized when the allergen is contacted with a pool of sera IgE taken from a group of at least two individuals that are allergic to the allergen.

52. A method of making a modified food allergen which is less reactive with IgE comprising:

(a) identifying one or more IgE binding sites in a food allergen, the one or more IgE binding sites being ones that are recognized when the food allergen is contacted with serum IgE from an individual that is allergic to the food allergen;

(b) modifying the food allergen by mutating at least one amino acid in one or more IgE binding sites;

(c) screening for IgE binding to the modified food allergen using serum IgE from an individual that is allergic to the food allergen; and

(d) selecting the modified food allergens which have decreased binding to IgE as compared to the unmodified food allergen.

53. The method of claim 52 wherein the modified allergen is based on a protein obtained from a source selected from the group consisting of legumes, milks, grains, eggs, fish, crustaceans, and mollusks.

54. The method of claim 53 wherein the modified allergen is based on a protein obtained from a source selected from the group consisting of wheat, barley, cow milk, egg, codfish, hazel nut, soybean, and shrimp.

55. A method of making a modified peanut allergen which is less reactive with IgE comprising:

(a) identifying one or more IgE binding sites in a peanut allergen, the one or more IgE binding sites being ones that are recognized when the peanut allergen is contacted with serum IgE from an individual that is allergic to the peanut allergen;

(b) modifying the peanut allergen by mutating at least one amino acid in one or more IgE binding sites;

(c) screening for IgE binding to the modified peanut allergen using serum IgE from an individual that is allergic to the peanut allergen; and

(d) selecting the modified peanut allergens which have decreased binding to IgE as compared to the unmodified peanut allergen.

56. The method of claim 55 wherein the modified peanut allergen is made from a peanut allergen selected from the group consisting of Ara h 1, Ara h 2, and Ara h 3.

57. The method of claim 37, 52, or 55, wherein the step of modifying includes modifying at least 1-6 amino acids in at least one IgE epitope of the allergen.

58. The method of claim 37, 52, or 55, wherein the step of modifying includes modifying at least 1-5 amino acids in at least one IgE epitope of the allergen.

59. The method of claim 37, 52, or 55, wherein the step of modifying includes modifying at least 1-4 amino acids in at least one IgE epitope of the allergen.

60. The method of claim 37, 52, or 55, wherein the step of modifying includes modifying at least 1-3 amino acids in at least one IgE epitope of the allergen.

61. The method of claim 37, 52, or 55, wherein the step of modifying includes modifying at least 1-2 amino acids in at least one IgE epitope of the allergen.

62. The method of claim 37, 52, or 55, wherein the step of selecting includes selecting the modified allergens which bind to IgE at levels that are less than about 1% of those observed with the unmodified allergen.